

WHAT IS CLAIMED IS:

1. A seed implantation system comprising, in combination, a support structure, a plurality of spaced hollow needles carried by said support structure and having seeds disposed therein and sheathed thereby, means for individually adjusting the longitudinal positions of said needles relative to each other, means for simultaneously inserting a plurality of needles in predetermined positions in a patient whereby the sheathed seeds and the needles are disposed in predetermined positions within the patient, and means for unsheathing said seeds from such needles at said predetermined positions within the patient.
2. The combination as set forth in Claim 1, each needle having a tubular wall defining an elongate slot extending longitudinally of said needle, said means for unsheathing said seeds including a tab disposed in said slot and projecting radially outwardly of said needle thereby enabling relative movement of said needle relative to said seeds.
3. The combination as set forth in Claim 1, the leading ends of said needles being of sharp tubular configuration.
4. The combination as set forth in Claim 1, said means for adjusting the longitudinal positions of said needles relative to each other including screw means rotatable relative to said needles.
5. The combination as set forth in Claim 4 including means releasably connecting said needles to said screw means.

6. The combination as set forth in Claim 1, said support structure including a guide block defining a plurality of passageways each adapted to receive and support an individual needle for longitudinal movement relative to said support structure.

7. A radioactive seed implantation system for use in treatment of prostate cancer, said system comprising, in combination, a support structure, a guide block fixed to said support structure and defining a plurality of guide passageways disposed in rows and columns and adapted to receive elongate needles, a stop member fixed to said support structure and disposed in spaced relationship with respect to said guide block, a push plate mounted on said support structure for relative movement with respect to said stop member, a plurality of elongate needles releaseably connected to said push plate for simultaneous longitudinal movement with respect to said guide block, said needles being of tubular configuration and defining an elongate passageway adapted to receive and sheath radioactive seeds therein, and means for unsheathing said seeds from said needles in predetermined locations in the prostate gland of a patient.

8. The combination as set forth in Claim 7, each of said needles having a tubular wall defining an elongate slot, said means for unsheathing said seeds from said needles including an elongate push rod having a tab projecting radially outwardly through said elongate slot defined by the tubular wall of the associated needle.

9. The combination as set forth in Claim 7, and screw means for individually adjusting the longitudinal positions of said needles relative to the associated push plate.

10. The combination as set forth in Claim 9, the portion of each needle remote from the associated push plate having a sharp tubular end disposed at right angles with respect to the longitudinal axis of the needle.

11. The combination as set forth in Claim 9, and means for measuring the longitudinal positions of said needles relative to the associated push plate.

12. The combination as set forth in Claim 9, and wrench means for effecting rotation of said screw means relative to the associated push plate.

13. A radioactive seed implantation system for use in treatment of prostate cancer, said system comprising, in combination, a support structure, a guide block fixed to said support structure and defining a plurality of guide passageways disposed in rows and columns and adapted to receive elongate needles, a stop member fixed to said support structure and disposed in spaced relationship with respect to said guide block, a push plate mounted on said support structure for relative movement so as to engage said stop member, a plurality of elongate needles releaseably connected to said push plate for simultaneous longitudinal movement with respect to said guide block, said needles being of tubular configuration and defining an elongate passageway adapted to receive and sheath radioactive seeds therein, and means for unsheathing said seeds from said needles at predetermined locations in the prostate gland of a patient.

14. The combination as set forth in Claim 13, each of said needles having a tubular wall defining an elongate slot, said means for unsheathing said seeds from said needles including an elongate push rod having a tab projecting radially outwardly through said elongate slot defined by the tubular wall of the associated needle.

15. The combination as set forth in Claim 14, and screw means for individually adjusting the longitudinal positions of said needles relative to the associated push plate.

16. The combination as set forth in Claim 15, the portion of each needle remote from the associated push plate having a sharp tubular end disposed at right angles with respect to the longitudinal axis of the needle.

17. The combination as set forth in Claim 16, and measuring means for setting the longitudinally adjusted positions of said needles relative to each other.

18. The combination as set forth in Claim 15 including wrench means for effecting rotation of said screw means relative to the associated push plate.

19. An implant needle of tubular configuration and having a tubular wall defining an elongate passageway, said tubular wall defining an elongate slot communicating with said passageway, and an elongate push rod disposed in said passageway and having a tab portion projecting radially outwardly through said slot.

20. The combination as set forth in Claim 19, one end portion of said wall having a sharp tubular end disposed at right angles with respect to the longitudinal axis of said passageway.

21. A method of implanting radioactive seeds in a prostate gland of a patient comprising the steps of establishing a preplanned radiation seed pattern; preloading a plurality of needles with radioactive seeds located in predetermined positions therein; individually longitudinally and infinitely adjusting said needles relative to each other whereby the seeds are disposed in said predetermined seed pattern; simultaneously inserting a plurality of said needles into the prostate gland of a patient to a predetermined depth; and thereafter withdrawing the needles from the gland while maintaining the seeds in their predetermined seed pattern within the gland.